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(FILE 'HOME' ENTERED AT 18:29:33 ON 05 AUG 2007)

FILE 'REGISTRY' ENTERED AT 18:29:58 ON 05 AUG 2007  
E DIEPOXYBUTANE/CN

L1 1 S E3

FILE 'CAPLUS, MEDLINE' ENTERED AT 18:32:02 ON 05 AUG 2007  
L2 12 S ?CROSSLINK? (P) ALKYLENE (P) ?SACCHARIDE?  
L3 85 S ?CROSSLINK? (P) ETHYLENE (P) ?SACCHARIDE?  
L4 0 S ?CROSSLINK? (P) ETHYLENE BRIDGE? (P) ?SACCHARIDE?  
L5 1 S ?CROSSLINK? (P) ETHER BRIDGE? (P) ?SACCHARIDE?  
L6 53 S ?CROSSLINK? (P) BRIDGE? (P) ?SACCHARIDE?  
L7 3 S L6 AND SUPPORT?  
L8 50 S L6 NOT L7  
L9 1 S L8 AND ETHYLENE?  
L10 49 S L8 NOT L9  
L11 0 S L10 AND ALKYLENE?  
L12 1 S ?CROSSLINK? (P) BISTHIOETHER? (P) ?SACCHARIDE?  
L13 5 S ?CROSSLINK? (P) THIOETHER? (P) ?SACCHARIDE?  
L14 66 S ?CROSSLINK? (P) BIS? (P) ?SACCHARIDE?  
L15 3 S ?CROSSLINK? (P) BISUL? (P) ?SACCHARIDE?  
L16 0 S ?CROSSLINK? (P) BISIL? (P) ?SACCHARIDE?  
L17 3 S ?CROSSLINK? (P) BISUL? (P) ?SACCHARIDE?  
L18 167 S ?CROSSLINK? (P) SUPPORT? (P) ?SACCHARIDE?  
L19 1 S ?CROSSLINK? (P) BISTHIOETHER? (P) POLY?  
L20 261 S ?CROSSLINK? (P) ?THIOETHER? (P) POLY?  
L21 2 S ?CROSSLINK? (P) ?THIOETHER? BRIDGE? (P) POLY?  
L22 0 S ?CROSSLINK? (P) ?THIOETHER? LIKKAGE? (P) POLY?  
L23 10 S ?CROSSLINK? (P) ?THIOETHER? LINKAGE? (P) POLY?

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FILE 'CAPLUS, MEDLINE' ENTERED AT 18:32:02 ON 05 AUG 2007  
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L7 3 S L6 AND SUPPORT?  
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L9 1 S L8 AND ETHYLENE?  
L10 49 S L8 NOT L9  
L11 0 S L10 AND ALKYLENE?  
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L14 66 S ?CROSSLINK? (P) BIS? (P) ?SACCHARIDE?  
L15 3 S ?CROSSLINK? (P) BISUL? (P) ?SACCHARIDE?  
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L17 3 S ?CROSSLINK? (P) BISUL? (P) ?SACCHARIDE?  
L18 167 S ?CROSSLINK? (P) SUPPORT? (P) ?SACCHARIDE?  
L19 1 S ?CROSSLINK? (P) BISTHIOETHER? (P) POLY?  
L20 261 S ?CROSSLINK? (P) ?THIOETHER? (P) POLY?  
L21 2 S ?CROSSLINK? (P) ?THIOETHER? BRIDGE? (P) POLY?  
L22 0 S ?CROSSLINK? (P) ?THIOETHER? LIKKAGE? (P) POLY?  
L23 10 S ?CROSSLINK? (P) ?THIOETHER? LINKAGE? (P) POLY?

L2 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2000:175542 CAPLUS  
 DOCUMENT NUMBER: 132:231252  
 TITLE: Chiral supports, stationary phases, and substrates  
 based on polysaccharides and oligosaccharides  
 crosslinked with bissilane-, bisthioether-,  
 bissulphoxyde-, bissulphone- and butanediyl  
 derivatives  
 INVENTOR(S): Duval, Raphael  
 PATENT ASSIGNEE(S): Institut Francais Du Petrole, Fr.; Chiralsep Sarl; Eka  
 Chemicals AB  
 SOURCE: Eur. Pat. Appl., 32 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 985682	A1	20000315	EP 1999-402204	19990907
EP 985682	B1	20051207		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
FR 2784108	A1	20000407	FR 1998-11376	19980911
AU 9947345	A1	20000608	AU 1999-47345	19990902
AU 769244	B2	20040122		
AT 312121	T	20051215	AT 1999-402204	19990907
ES 2252924	T3	20060516	ES 1999-402204	19990907
CA 2281973	A1	20000311	CA 1999-2281973	19990910
NO 9904411	A	20000313	NO 1999-4411	19990910
JP 2000086702	A	20000328	JP 1999-258550	19990913
US 2001029282	A1	20011011	US 2001-838284	20010420
US 6677446	B2	20040113		
US 2004068106	A1	20040408	US 2003-694844	20031029
PRIORITY APPLN. INFO.:			FR 1998-11376	A 19980911
			US 1999-394905	B3 19990913
			US 2001-838284	A3 20010420

AB Chiral polysaccharide compns. consist of chiral monosaccharide units (as part of polysaccharide or oligosaccharide chains) crosslinked by components of general structures -X-Y-A[CH<sub>2</sub>-CHR-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X- (I) or -X-Y-A[CH<sub>2</sub>-CHR-L-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X (II), in which X = O or NH; m is a nonzero number <5; R = H or C<sub>1-8</sub>-alkyl-; Y is a single bond, -NHC(:O)-, -NHC(:S)-, or -C(:O)-; A is a single bond or C<sub>1-21</sub>-alkylene; L is a bis-thioether (of general formula -S-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-S-), a bis-sulfoxide (of general formula -SO-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-SO-), a bis-sulfone (of general formula -SO<sub>2</sub>-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-SO<sub>2</sub>-), a bis-silane [of general formula -Si(R<sub>5</sub>)<sub>2</sub>-R<sub>4</sub>-Si(R<sub>5</sub>)<sub>2</sub>-], in which W<sub>1</sub> and W<sub>3</sub> are d C<sub>1-21</sub>-alkylene, C<sub>6-18</sub>-arylene, or C<sub>7-40</sub>-aralkylene; -W<sub>2</sub> is a single bond, W<sub>1</sub>, O, S, or a sym. diester of formula -OC(:O)-W<sub>1</sub>-C(:O)O-, R<sub>5</sub> is C<sub>1-5</sub>-alkyl or H, R<sub>4</sub> is -R<sub>6</sub>-Si[(R<sub>5</sub>)<sub>2</sub>-R<sub>6</sub>-]<sub>n</sub> (in which R<sub>6</sub> is (CH<sub>2</sub>)<sub>o</sub>, or O; n = 0-3000, and o = 0-10). The arylene radicals I and II can be substituted by one or more substituents, selected by halogen, C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkoxy, and NO<sub>2</sub>. The monosaccharide chiral units are located at the terminus of structures I and II, such that the overall compns. have the following structures: (MS)-X-Y-A[CH<sub>2</sub>-CHR-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X-(MS) and (MS)-X-Y-A[CH<sub>2</sub>-CHR-L-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X-(MS), in which X, Y, A, R, L, and m are the same as in I and II, and the monosaccharide chiral unit (MS) is part of a linear, branched, or cyclic polysaccharide or oligosaccharide. The compns., which can be polymerized in the presence of a solvent and stabilizers, or deposited on a support, are useful as chiral stationary phases for gas, liquid, and supercrit.

chromatog., especially for separation of enantiomers.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2004:1035738 CAPLUS  
 DOCUMENT NUMBER: 142:24718  
 TITLE: Cationic electrodeposition compositions containing  
 antifoaming agents  
 INVENTOR(S): Kojima, Yoshio; Kawabe, Hiroshi  
 PATENT ASSIGNEE(S): Nippon Paint Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004339364	A	20041202	JP 2003-137597	20030515
PRIORITY APPLN. INFO.:			JP 2003-137597	20030515
AB	The compns. comprise cationic epoxy resins and blocked isocyanate crosslinkers dissolved or dispersed in an aqueous medium containing a C2-4 alkylene oxide adduct of a di- or trisaccharide compound-type surfactant as antifoaming agent. Thus, in an example, an antifoaming agent was obtained by propoxylating Sannix RP 410A (propoxylated sucrose compound).			

L2 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2004:143015 CAPLUS  
 DOCUMENT NUMBER: 140:169763  
 TITLE: Synthesis of a bone-polymer composite material  
 INVENTOR(S): Shimp, Lawrence A.; Winterbottom, John M.; Boyce, Todd M.; Knaack, David  
 PATENT ASSIGNEE(S): Osteotech, Inc., USA  
 SOURCE: PCT Int. Appl., 49 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004014452	A2	20040219	WO 2003-US25417	20030812
WO 2004014452	A9	20040610		
WO 2004014452	A3	20040826		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
CA 2494889	A1	20040219	CA 2003-2494889	20030812
AU 2003262660	A1	20040225	AU 2003-262660	20030812
US 2004146543	A1	20040729	US 2003-639912	20030812
EP 1528938	A2	20050511	EP 2003-785276	20030812
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
JP 2006501884	T	20060119	JP 2004-528124	20030812
NZ 538196	A	20070531	NZ 2003-538196	20030812
PRIORITY APPLN. INFO.:			US 2002-402998P	P 20020812

AB A method of producing a bone-polymer composite is described, comprising the steps of providing a plurality of bone particles, combining the bone particles with a biocompatible polymer precursor, and polymerizing the polymer precursor. Polymer is selected from the group consisting of poly(phosphoesters), polysulfones, polyfumarates, polyphosphazines, poly(alkylene oxides), poly(arylates), poly(anhydrides), poly(hydroxy acids), polyesters, polycarbonates, polyamides, polyamino acids, biodegradable polycyanoacrylates, polyurethanes, polysaccharides, tyrosine-based polymers, polyureas, etc. A surface of the bone particles is modified, e.g., by attaching a silane coupling agent or by exposing collagen fibers at the surface of the bone particles and further crosslinking the exposed collagen fibers. The composite is shaped to give osteoimplant.

L2 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:861737 CAPLUS  
 DOCUMENT NUMBER: 134:43084  
 TITLE: Crosslinker/chain extender for use in flexible polyurethane foams  
 INVENTOR(S): Wiese, Kevin D.; Knickmeyer, Angela M.  
 PATENT ASSIGNEE(S): Solutia Inc., USA  
 SOURCE: PCT Int. Appl., 48 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000073368	A1	20001207	WO 2000-US15158	20000601
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
MX 2001PA12501	A	20031014	MX 2001-PA12501	20011203
US 2004014830	A1	20040122	US 2003-436690	20030513
US 6855741	B2	20050215		
PRIORITY APPLN. INFO.:			US 1999-136884P	P 19990601
			US 2000-585839	B1 20000601
			WO 2000-US15158	W 20000601

AB A plasticizer with a crosslinking/chain extending agent is incorporated into a water-blown flexible polyurethane foam formulation to provide acceptable softness, openness, and tensile strength characteristics. The class of plasticizers is selected from the group consisting of alkyl benzyl phthalates, phosphate esters and benzoates. The aromatic polyhydroxy compds. are a preferred class of crosslinking/chain extending agents, particularly dihydroxyarom. compds., more particularly resorcinol. Other classes of preferred crosslinking/extending agents are saccharides, alkyl glycosides, and alkylene oxide adducts of aliphatic triols. Other preferred crosslinker/extenders include epoxidized soybean oil, polymeric 1,3,5-tri-Me,2-hydroxy-benzene, selected phenolic resins, selected low mol. weight adducts of a polyfunctional aliphatic amines, and polyoxyalkylene polyols wherein the hydroxyl number is less than about 200 and the average number of hydroxyl groups range from about 3 to about 8.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2000:223684 CAPLUS  
 DOCUMENT NUMBER: 132:271629  
 TITLE: Silver halide photographic material containing contrast-improving agent, hardener, and saccharide  
 INVENTOR(S): Goto, Kenji  
 PATENT ASSIGNEE(S): Konica Co., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000098526	A	20000407	JP 1998-263061	19980917
PRIORITY APPLN. INFO.:			JP 1998-263061	19980917
AB	In the photog. material with hydrophilic colloid layer containing contrast-improving agent, the hardening of the layer is promoted with a moisturizer. The material comprising a support having thereon $\geq 1$ hydrophilic layer containing a hydrazine derivative or a tetrazolium compound, in which gelatin is crosslinked with $\text{CH}_2:\text{CHSO}_2\text{R}_1\text{SO}_2\text{CH}:\text{CH}_2$ ( $\text{R}_1 =$ alkylene or substituted alkylene which may have an amide, an ether, or a thioether linkage) and contains saccharides. It shows improved storage stability in the presence of the contrast-improving agent.			

L2 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2000:175542 CAPLUS  
 DOCUMENT NUMBER: 132:231252  
 TITLE: Chiral supports, stationary phases, and substrates based on polysaccharides and oligosaccharides crosslinked with bissilane-, bisthioether-, bissulphoxyde-, bissulphone- and butanediyl derivatives  
 INVENTOR(S): Duval, Raphael  
 PATENT ASSIGNEE(S): Institut Francais Du Petrole, Fr.; Chiralsep Sarl; Eka Chemicals AB  
 SOURCE: Eur. Pat. Appl., 32 pp.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 985682	A1	20000315	EP 1999-402204	19990907
EP 985682	B1	20051207		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
FR 2784108	A1	20000407	FR 1998-11376	19980911
AU 9947345	A1	20000608	AU 1999-47345	19990902
AU 769244	B2	20040122		
AT 312121	T	20051215	AT 1999-402204	19990907
ES 2252924	T3	20060516	ES 1999-402204	19990907
CA 2281973	A1	20000311	CA 1999-2281973	19990910
NO 9904411	A	20000313	NO 1999-4411	19990910
JP 2000086702	A	20000328	JP 1999-258550	19990913
US 2001029282	A1	20011011	US 2001-838284	20010420
US 6677446	B2	20040113		
US 2004068106	A1	20040408	US 2003-694844	20031029

PRIORITY APPLN. INFO.: FR 1998-11376 A 19980911  
 US 1999-394905 B3 19990913  
 US 2001-838284 A3 20010420

AB Chiral polysaccharide compns. consist of chiral monosaccharide units (as part of polysaccharide or oligosaccharide chains) crosslinked by components of general structures -X-Y-A[CH<sub>2</sub>-CHR-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X- (I) or -X-Y-A[CH<sub>2</sub>-CHR-L-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X- (II), in which X = O or NH; m is a nonzero number <5; R = H or C<sub>1-8</sub>-alkyl-; Y is a single bond, -NHC(:O)-, -NHC(:S), or -C(:O)-; A is a single bond or C<sub>1-21</sub>-alkylene; L is a bis-thioether (of general formula -S-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-S-), a bis-sulfoxide (of general formula -SO<sub>2</sub>-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-SO<sub>2</sub>-), a bis-sulfone (of general formula -SO<sub>2</sub>-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-SO<sub>2</sub>-), a bis-silane [of general formula -Si(R<sub>5</sub>)<sub>2</sub>-R<sub>4</sub>-Si(R<sub>5</sub>)<sub>2</sub>-], in which W<sub>1</sub> and W<sub>3</sub> are d C<sub>1-21</sub>-alkylene, C<sub>6-18</sub>-arylene, or C<sub>7-40</sub>-aralkylene; -W<sub>2</sub> is a single bond, W<sub>1</sub>, O, S, or a sym. diester of formula -OC(:O)-W<sub>1</sub>-C(:O)O-, R<sub>5</sub> is C<sub>1-5</sub>-alkyl or H, R<sub>4</sub> is -R<sub>6</sub>-Si[(R<sub>5</sub>)<sub>2</sub>-R<sub>6</sub>-]<sub>n</sub> (in which R<sub>6</sub> is (CH<sub>2</sub>)<sub>6</sub> or O; n = 0-3000, and o = 0-10). The arylene radicals I and II can be substituted by one or more substituents, selected by halogen, C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkoxy, and NO<sub>2</sub>. The monosaccharide chiral units are located at the terminus of structures I and II, such that the overall compns. have the following structures: (MS)-X-Y-A[CH<sub>2</sub>-CHR-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X-(MS) and (MS)-X-Y-A[CH<sub>2</sub>-CHR-L-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X-(MS), in which X, Y, A, R, L, and m are the same as in I and II, and the monosaccharide chiral unit (MS) is part of a linear, branched, or cyclic polysaccharide or oligosaccharide. The compns., which can be polymerized in the presence of a solvent and stabilizers, or deposited on a support, are useful as chiral stationary phases for gas, liquid, and supercrit. chromatog., especially for separation of enantiomers.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1998:265842 CAPLUS  
 DOCUMENT NUMBER: 128:299592  
 TITLE: Bioabsorbable star-branched polycarbonates and biocompatible compositions, medical/surgical devices, adhesives, and bone substitutes therefrom  
 INVENTOR(S): Bennett, Steven L.; Connolly, Kevin; Gruskin, Elliott; Jiang, Ying  
 PATENT ASSIGNEE(S): United States Surgical Corp., USA  
 SOURCE: Eur. Pat. Appl., 14 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 4  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 837084	A2	19980422	EP 1997-118059	19971017
EP 837084	A3	19981209		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CA 2218447	A1	19980417	CA 1997-2218447	19971016
US 1996-733683 A 19961017				

PRIORITY APPLN. INFO.: AB Title polycarbonates of soft segment forming monomers, i.e., p-dioxanone, ε-caprolactone, alkylene carbonates, or mixts. thereof, can be end-capped with isocyanate, mixed with a filler and/or crosslinked. A biocompatible composition comprises the title polymer and a polysaccharide modified to contain a charge-inducing substituent. Thus, a pentaerythritol-initiated p-dioxanone-glycolide star copolymer was prepared and end-capped with lysine diisocyanate. The end-capped polymer (10 g) was mixed with 5 g hydroxyapatite and

crosslinked by addition of water 0.5 m, diethylethanolamine 1, and stannous octoate 0.5 mL, forming a moldable foam having a putty-like consistency which can be molded by hand or easily packed into a bone defect.

L2 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1996:197278 CAPLUS  
DOCUMENT NUMBER: 124:268480  
TITLE: Liquid-type agents for treatment of soil moisture  
INVENTOR(S): Yamashita, Ritsumasa  
PATENT ASSIGNEE(S): Dainichi Kasei Kk, Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08003554	A	19960109	JP 1994-165905	19940623

PRIORITY APPLN. INFO.: JP 1994-165905 19940623  
AB The agents contain (A) powdered or granular water-absorbing resins, (B) liquid agents of alkylene oxide derivs. and/or glycerin, (C) inorg. and/or organic fillers, and optionally (D) electrolyte additives, and (E) water. Preferably, the water-absorbing resins are selected from acrylic acid salt-base crosslinked polymers, starch-acrylic acid crosslinked graft copolymers, starch-acrylonitrile graft copolymers, isobutylene-maleic anhydride crosslinked copolymers, ethylene oxide-base polymers, saponified vinyl acetate-acrylic acid salt-base copolymers, (crosslinked) CM-cellulose-base polymers, acrylic acid salt-acrylamide copolymers, saponified vinyl acetate-maleic anhydride copolymers, ethylene oxide-base polymers, polysaccharide-acrylic acid graft copolymers. The agents, capable of adjusting their viscosity and water absorption rate, are used for adding or mixing with high-moisture soils to prevent dropping and eluting of moisture from the soils for transporting or storing.

L2 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1993:682348 CAPLUS  
DOCUMENT NUMBER: 119:282348  
TITLE: Recording sheet  
INVENTOR(S): Malhotra, Shadi L.; Turner, Josephine P.; Bryant, Brent S.; Jones, Arthur Y.  
PATENT ASSIGNEE(S): Xerox Corp., USA  
SOURCE: U.S., 12 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5212008	A	19930518	US 1992-861668	19920401
US 5320902	A	19940614	US 1993-34445	19930319
JP 06040146	A	19940215	JP 1993-66611	19930325
JP 3230620	B2	20011119		
EP 566270	A1	19931020	EP 1993-302406	19930326
EP 566270	B1	19960925		

R: DE, FR, GB

PRIORITY APPLN. INFO.: US 1992-861668 A2 19920401  
AB Disclosed is a recording sheet suitable for use in copying and printing comprises a substrate, a first coating in contact with the substrate

comprising a crosslinking agent selected from the group consisting of hexamethoxymethyl melamine, methylated melamine-formaldehyde, methylated urea-formaldehyde, cationic urea-formaldehyde, cationic polyamine-epichlorohydrin, glyoxal-urea resin, and the like, a catalyst, and a polymeric material capable of being crosslinked by the crosslinking agent and selected from the group consisting of polysaccharides having  $\geq 1$  hydroxy, carboxy, sulfate, amine, or amino group, polysaccharide gums, poly (alkylene oxides), vinyl polymers, and mixts. thereof and a second coating in contact with the first coating comprises a binder and a material selected from the group consisting of fatty imidazolines, ethosulfate quaternary compds., dialkyl di-Me methosulfate quaternary compds., alkoxylated fatty quaternary compds., amine oxides, amine ethoxylates, imidazoline quaternary compds., alkyl benzyl di-Me quaternary compds., poly(epiamines), and mixts. thereof.

L2 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:169868 CAPLUS  
 DOCUMENT NUMBER: 118:169868  
 TITLE: Preparation and uses of copolymers of oligo- and/or polysaccharide allyl derivatives with vinyl monomers  
 INVENTOR(S): Kery, Vladimir; Tihlarik, Karol; Capek, Ignac  
 PATENT ASSIGNEE(S): Czech.  
 SOURCE: Czech., 5 pp.  
 CODEN: CZXXA9  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Slovak  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 272491	B1	19910115	CS 1988-3321	19880518
PRIORITY APPLN. INFO.:			CS 1988-3321	19880518

AB The title copolymers, useful as supports for proteins and enzymes in electrophoretic sepn., are prepared by copolymn. of 0.01-99.98% allyl derivative of oligo- and/or polysaccharide (substitution degree 0.01-3.0), 0.01-99.98% vinyl monomer and, 0.01-90% crosslinker, e.g., H2C:CR1O2CR2CO2CR1:CH2, R3O2CR2CO2R3, or H2C:CR3CONHR2NHCOCR2:CH2 (R1 = H, C1-8 alkyl, halo; R2 = C1-8 alkylene, phenylene or hydroxyalkylene; R3 = vinyl or alkyl) in presence of ammonium peroxodisulfate or AIBN, and optionally, stabilizers, e.g., tetramethylethylenediamine (I), sorbitol oxyethylated ester, or n-alkane. Thus, a solution of acrylamide, methylenebisacrylamide, and allylated mannan (substitution degree 0.01) in H2O was evacuated, mixed with I and (NH4)2S2O8, heated, and worked up to give a copolymer having particle size 0.05-0.15 mm.

L2 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1988:456872 CAPLUS  
 DOCUMENT NUMBER: 109:56872  
 TITLE: Cellulose graft polymers as anion exchangers for chromatography  
 PATENT ASSIGNEE(S): Cuno, Inc., USA  
 SOURCE: Israeli, 95 pp.  
 CODEN: ISXXAQ  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 7  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
IL 70933	A	19870831	IL 1984-70933	19840213

WO 8403053	A1	19840816	WO 1984-US177	19840210
W: AU, BR, DK, JP				
AU 8425775	A	19840830	AU 1984-25775	19840210
AU 580548	B2	19890119		
BR 8405354	A	19850212	BR 1984-5354	19840210
JP 60500539	T	19850418	JP 1984-501046	19840210
JP 07005688	B	19950125		
CA 1255827	A1	19890613	CA 1984-447307	19840213
EP 117478	A1	19840905	EP 1984-101476	19840214
EP 117478	B1	19880928		
R: BE, CH, DE, FR, GB, IT, LI, NL, SE				
DK 8404915	A	19841012	DK 1984-4915	19841012
US 4687820	A	19870818	US 1986-857513	19860422
US 5059654	A	19911022	US 1989-311498	19890216
PRIORITY APPLN. INFO.:				
			US 1983-466114	A 19830214
			US 1984-576448	A2 19840202
			WO 1984-US177	A 19840210
			US 1984-643212	A1 19840822
			US 1984-656922	A2 19841002
			US 1987-13512	B2 19870127
			US 1987-130186	B2 19871208
			US 1988-154815	B2 19880211

AB Products useful in chromatog. are prepared by polymerizing water-insol. polysaccharides, unsatd. epoxides, and the esters RO<sub>2</sub>CZNR<sub>1</sub>R<sub>2</sub> (R =  $\alpha$ ,  $\beta$ -unsatd. group; R<sub>1</sub>, R<sub>2</sub> = C<sub>1</sub>-6 alkyl, alkanoyl; Z = -, alkylene, or an N-containing heterocyclic ring), and optionally crosslinking agents. Refluxing 5 g graft polymer (prepared from 10 g cellulose, 25 mL diethylaminoethyl methacrylate, and 2.5 mL glycidyl methacrylate), 3 mL 1,4-dichlorobutane, 0.1 g KI, 100 mL iso-ProOH, and 100 mL H<sub>2</sub>O overnight and quaternizing with 1-chloro-2-propanol gave a resin with bovine serum albumin capacity 1527 and 758 mg/g at pH 6.29 and 8.69, resp.

L2 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1986:426907 CAPLUS

DOCUMENT NUMBER: 105:26907

TITLE: Substituted amino-alkyl sulfonic acid compounds and their use in the treatment of subterranean formations

INVENTOR(S): Penny, Glenn S.

PATENT ASSIGNEE(S): Halliburton Co., USA

SOURCE: U.S., 6 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4563291	A	19860107	US 1984-632770	19840720
CA 1249712	A1	19890207	CA 1985-486051	19850628
NO 8502676	A	19860121	NO 1985-2676	19850703
AU 8545101	A	19860123	AU 1985-45101	19850717
AU 580613	B2	19890119		
DK 8503307	A	19860121	DK 1985-3307	19850719
EP 169074	A2	19860122	EP 1985-305157	19850719
EP 169074	A3	19860625		

R: AT, DE, FR, GB, IT, NL

PRIORITY APPLN. INFO.: US 1984-632770 A 19840720

OTHER SOURCE(S): MARPAT 105:26907

AB Gelled drilling fluids (e.g., fracturing fluids), containing crosslinkable hydratable polymers) are buffered (at pH 6-8) by addition of an aminoalkylsulfonic acid or salt of formula RR<sub>1</sub>N(CH<sub>2</sub>)<sub>n</sub>SO<sub>3</sub>M (I, R and R<sub>1</sub> are independently C<sub>1</sub>-18-alkyl; RR<sub>1</sub> can also be a 5-9-membered

cyclic substituent containing 1-3 ring N atoms and 0-2 O ring atoms; n = 2 or 3, M<sup>+</sup> is H or cation) which does not interfere with the crosslinking agent (e.g., an organometallic chelate). I is prep'd by reaction of an alkylene oxide with NaHSO<sub>3</sub> and an alkanolamine in aqueous solution. Suitable hydratable polymers are polyacrylate, polyaerylamide, and polysaccharides (e.g., cellulose derivs., starch, gums). Thus, addition of .apprx.1.25 gal acid buffer solution containing 75

weight% I (R = R<sub>1</sub> = hydroxyethyl, X = Na, n = 2) to an aqueous fracturing fluid (containing a formulated liquid gel concentrate) resulted in viscosification and reduction of pH from 13 to 7. The fluid was further viscosified by addition of .apprx.1.5 gal aqueous Ti triethanolamine chelate.

L2 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1986:136114 CAPLUS  
DOCUMENT NUMBER: 104:136114  
TITLE: Dispersed absorbent products and method of use  
INVENTOR(S): Korpman, Ralf; Gandy, Charles  
PATENT ASSIGNEE(S): Personal Products Co., USA  
SOURCE: Eur. Pat. Appl., 27 pp.

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 157960	A1	19851016	EP 1984-302059	19840327
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
ZA 8402227	A	19851127	ZA 1984-2227	19840326
GB 2156370	A	19851009	GB 1984-7845	19840327
GB 2156370	B	19871202		
AU 567728	B2	19871203	AU 1984-26154	19840327
AU 8426154	A	19851003		
JP 60212162	A	19851024	JP 1984-66846	19840405
JP 06073630	B	19940921		
BR 8401970	A	19851203	BR 1984-1970	19840426
PRIORITY APPLN. INFO.:			EP 1984-302059	19840327

AB Particulate, water-insol., water-swellable absorbents dispersed in an organic liquid may be employed alone or on a substrate to provide articles such as pads and diapers. Absorbents include acrylate polymers, acrylate polymer modified polysaccharides, crosslinked CM-cellulose, crosslinked poly(alkylene oxides) and gum blends. The vehicles include oils, liquid resins, liquid rubbers, liquid polyalkylenes, glycol ethers, and higher alcs. Thus, starch polyacrylate dispersed in mineral oil was applied to a nonwoven rayon sheet. The materials were employed in the absorbent portion of diapers and backed with a moisture impermeable film to produce disposable diapers having superior absorptive properties and in which the particulate absorbents were retained in place.

LS ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1986:494131 CAPLUS  
DOCUMENT NUMBER: 105:94131  
TITLE: Amphiphilic gel-product for chromatographic and batchwise adsorption  
INVENTOR(S): Porath, Jerker; Belew, Makonnen  
PATENT ASSIGNEE(S): Exploaterings AB T.B.F., Swed.  
SOURCE: Eur. Pat. Appl., 13 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 180563	A2	19860507	EP 1985-850321	19851011
EP 180563	A3	19870204		
R: DE, FR, GB				
SE 8405431	A	19860501	SE 1984-5431	19841030
SE 452557	B	19871207		
SE 452557	C	19880317		
JP 61165661	A	19860726	JP 1985-243799	19851030
PRIORITY APPLN. INFO.:			SE 1984-5431	A 19841030

AB The title product comprising a hydrophobic group coupled to a hydrophilic gel through a thio-ether bridge provides better chromatog. separation and batchwise adsorption than products in which hydrophobic group is bound to the hydrophilic gel through an O bridge. The gel may be a crosslinked polysaccharide, a polyacrylic acid derivative or an inorg. substance, such as silica gel, glass, or their derivs. The hydrophobic group may comprise alkyl, alkenyl, cycloalkenyl, alkaryl, aralkyl, heteroaryl, alkoheteroalkyl with substituted or unsubstituted elec. neutral groups in addition to the thio-ether group. The hydrophobic group may be separated from matrix by a spacer having  $\geq 1$  methylene groups. The gel-product is prepared by introducing an oxirane or thiosulfate group into a hydrophilic gel and subsequently contacting the gel with a hydrophobic mercaptan in an alkaline solution. For example, agarose gel was mixed with NaBH4, butane dioldiglycidyl ether and NaOH solution. The resulting oxirane gel was contacted with octylmercaptan in the presence of NaBH4 and NaOH. The resulting octyl-S-agarose adsorbed human serum albumin as well as conventionally used octyl-O-agarose. However, the octyl-S-agarose provided a pure serum albumin when eluting with a Tris buffer containing ethylene glycol.

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L7 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2007:553903 CAPLUS  
 TITLE: Evidence of char formation during wood heat treatment by mild pyrolysis  
 AUTHOR(S): Inari, Gildas Nguila; Mounaguengui, Steeve; Dumarcay, Stephane; Petrissans, Mathieu; Gerardin, Philippe  
 CORPORATE SOURCE: Laboratoire d'Etudes et de Recherches sur le Materiau Bois, UMR-A 1093, Faculte des Sciences et Techniques, Nancy Universites, Vandoeuvre-les-Nancy, F-54506, Fr.  
 SOURCE: Polymer Degradation and Stability (2007), 92(6), 997-1002  
 CODEN: PDSTDW; ISSN: 0141-3910  
 PUBLISHER: Elsevier Ltd.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The behavior of wood polymers during heat treatment carried out under inert atmospheric at 240 °C has been reinvestigated to understand the important decrease of the O/C ratio observed in a previous study using XPS. Heat treatment was performed not only on beech sawdust but also on its lignin and holocellulose fractions obtained after acidic hydrolysis of polysaccharides or delignification with sodium chlorite. CP/MAS <sup>13</sup>C NMR spectra indicate as previously reported an important degradation of hemicelluloses after thermal treatment. However, assignments of the signals appearing in the range of 125-135 ppm and 35 ppm attributed up to now to thermal crosslinking of lignin and formation of methylene bridges should be reconsidered. Indeed, heat treatment of the holocellulose fraction indicates quite similar signals showing that these latter are not due to lignin modification. According to the literature, these new signals have been attributed to the beginning of char formation. Determination of Klason lignin and HPLC anal. of the sugars contained in the hydrolyzate support the hypothesis of formation of carbonaceous materials within the wood structure during heat treatment by mild pyrolysis.  
 REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2001:903994 CAPLUS  
 DOCUMENT NUMBER: 136:39534  
 TITLE: Hydrogel product for adsorption purposes  
 INVENTOR(S): Porath, Jerker; Ersson, Bo  
 PATENT ASSIGNEE(S): Swed.  
 SOURCE: PCT Int. Appl., 32 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001094007	A1	20011213	WO 2001-SE1278	20010607
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
SE 2000002152	A	20011209	SE 2000-2152	20000608
SE 516594	C2	20020205		

EP 1289651	A1	20030312	EP 2001-938915	20010607
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2003186807	A1	20031002	US 2003-297544	20030528
PRIORITY APPLN. INFO.:				
SE 2000-2152 A 20000608				
US 2000-209999P P 20000608				
WO 2001-SE1278 W 20010607				

AB The present invention relates to a hydrogel product for adsorption purposes where an in-water insol. support matrix is cross-linked with polymers which give rise to an in-water swellable adsorbent. Further the polymers are internally cross-linked through at least one crosslinking agent. As a support matrix an organic polymer is used or a combination of such, e.g. polysaccharide such as agar, cellulose, starch and so on, protein and components of protein and polysaccharide. The support matrix is substituted with a first, soluble polymer material chemical bound to the support matrix, whereupon addnl. polymer materials optionally are built-in in the primary synthesized support matrix complex through different kinds of cross-links, wherein optionally the support matrix is present in the form of an acid- and base-stable residue. The hydrogel product may have the structural formula PYX1A1(Xz)Xn where P is the support matrix, Y is a nitrogen, sulfur or oxygen bridge, X1, Xn, Xz are the same or different di-, tri- or polyfunctional crosslinking agents, A1 is a water-soluble polymer material, n is a whole number where  $n \geq 2$ ; and z is 0 or a whole number where  $z \geq 0$ . The hydrogel product may also have the structural formula PYX1A1(X2A2)XiAi(Xz)Xn where P is a support matrix, Y is a nitrogen, sulfur or oxygen bridge, X1, Xi, Xn, Xz are the same or different di-, tri- or polyfunctional crosslinking agents, A1, Ai are water-soluble polymer material, preferably the same or different kinds of cross-linked residues of amines, and n and i are whole nos. where  $i \geq 2$  and  $n \geq 2$ ; and z is 0 or a whole number where  $z \geq 0$ . One or more of A1, Ai consist(s) of residues of a straight or branched polyalkylene amine, preferably oligo or polyethylene amine, or residues of other amines, the most preferred a polyalkylene diamine.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 3 MEDLINE on STN  
 ACCESSION NUMBER: 1998143690 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 9473616  
 TITLE: Immunocytochemistry of formalin-fixed human brain tissues: microwave irradiation of free-floating sections.  
 AUTHOR: Shiurba R A; Spooner E T; Ishiguro K; Takahashi M; Yoshida R; Wheelock T R; Imahori K; Cataldo A M; Nixon R A  
 CORPORATE SOURCE: Laboratories for Molecular Neuroscience, McLean Hospital, Harvard Medical School, Belmont, MA 02178, USA.  
 SOURCE: Brain research. Brain research protocols, (1998 Jan) Vol. 2, No. 2, pp. 109-19.  
 Journal code: 9716650. ISSN: 1385-299X.  
 PUB. COUNTRY: Netherlands  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 199804  
 ENTRY DATE: Entered STN: 16 Apr 1998  
 Last Updated on STN: 16 Apr 1998  
 Entered Medline: 3 Apr 1998

AB Formalin fixation, the chemical process in which formaldehyde binds to cells and tissues, is widely used to preserve human brain specimens from autolytic decomposition. Ultrastructure of cellular and mitochondrial membranes is markedly altered by vesiculation, but this does not interfere with diagnostic evaluation of neurohistology by light microscopy. Serious difficulties are encountered, however, when immunocytochemical staining is

attempted. Antigens that are immunoreactive in unfixed frozen sections and protein extracts appear to be concealed or destroyed in formalin-fixed tissues. In dilute aqueous solution, formaldehyde is in equilibrium with methylene glycol and its polymeric hydrates, the balance by far in favor of methylene glyco. Carbonylic formaldehyde is a reactive electrophilic species well known for crosslinking functional groups in tissue proteins, nucleic acids, and polysaccharides. Some of its methylene crosslinks are readily hydrolyzed. Others are stable and irreversible. During immunostaining reactions, intra- and inter-molecular links between macromolecules limit antibody permeation of tissue sections, alter protein secondary structure, and reduce accessibility of antigenic determinants. Accordingly, immunoreactivity is diminished for many antigens. Tissues are rapidly penetrated by methylene glycol, but formaldehyde binding to cellular constituents is relatively slow, increasing progressively until equilibrium is reached. In addition, prolonged storage in formalin may result in acidification of human brain specimens. Low pH favors dissociation of methylene glycol into formaldehyde, further reducing both classical staining and antigen detectability. Various procedures have been devised to counter the antigen masking effects of formaldehyde. Examples include pretreatment of tissue sections with proteases, formic acid, or ultrasound. Recently, heating of mounted sections in ionic salt solution by microwave energy was found to restore many antigens. Theory and practice of microwave antigen retrieval are covered extensively in the handbook *Microwave Cookbook for Microscopists*. A concise overview of microwave methods in the neurosciences has been published, and clinical applications have been reviewed. In this context, it should be noted that fresh tissues may be stabilized for immunocytochemistry by reversible, non-chemical binding processes such as cryosectioning after microwave treatment and freeze-drying. Thus, it may be possible to enhance immunostaining for some antigens by microwave irradiation of unfixed as well as fixed specimens. Parameters to be optimized for microwave retrieval of specific antigens include temperature, irradiation time, tissue buffer composition, salt concentration, and pH. Temperature, irradiation time, and pH are key variables. With this in mind, an optimal method was developed for retrieval of a wide variety of antigens in human brain tissues. Typical microwave protocols employ elevated temperatures that may reach 100 degrees C, where denaturation causes irreversible uncoiling and disruption of protein secondary and tertiary structures. Under these conditions, stable covalent bonds securing methylene crosslinks between polypeptides remain intact, but more reactive links formed by Schiff bases may be hydrolyzed. Resultant conformational changes presumably expose buried loops of continuous amino acids and protruding regions, increasing accessibility of their epitopes. Protein denaturation seems to be a reasonable explanation for the effects of microwaves on antigen retrieval.

This idea is supported by the observation that denaturing solutions such as 6 M urea increase immunoreactivity of some antigens. Still, the molecular basis of these effects remains unresolved, in part due to the complex chemistry of formaldehyde reactions with tissue constituents. Indeed, some methylene bridges between similar groups such as NH<sub>2</sub> and NH may be hydrolyzed by washing fixed tissues in distilled wa

L9 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1986:494131 CAPLUS  
 DOCUMENT NUMBER: 105:94131  
 TITLE: Amphipathic gel-product for chromatographic and  
 batchwise adsorption  
 INVENTOR(S): Porath, Jerker; Belew, Makonnen  
 PATENT ASSIGNEE(S): Exploaterings AB T.B.F., Swed.  
 SOURCE: Eur. Pat. Appl., 13 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 180563	A2	19860507	EP 1985-850321	19851011
EP 180563	A3	19870204		
R: DE, FR, GB				
SE 8405431	A	19860501	SE 1984-5431	19841030
SE 452557	B	19871207		
SE 452557	C	19880317		
JP 61165661	A	19860726	JP 1985-243799	19851030
PRIORITY APPLN. INFO.:			SE 1984-5431	A 19841030

AB The title product comprising a hydrophobic group coupled to a hydrophilic gel through a thio-ether bridge provides better chromatog. separation and batchwise adsorption than products in which hydrophobic group is bound to the hydrophilic gel through an O bridge. The gel may be a crosslinked polysaccharide, a polyacrylic acid derivative or an inorg. substance, such as silica gel, glass, or their derivs. The hydrophobic group may comprise alkyl, alkenyl, cycloalkenyl, alkaryl, aralkyl, heteroaryl, alkoheteroalkyl with substituted or unsubstituted elec. neutral groups in addition to the thio-ether group. The hydrophobic group may be separated from matrix by a spacer having  $\geq 1$  methylene groups. The gel-product is prepared by introducing an oxirane or thiosulfate group into a hydrophilic gel and subsequently contacting the gel with a hydrophobic mercaptan in an alkaline solution. For example, agarose gel was mixed with NaBH4, butane dioldiglycidyl ether and NaOH solution. The resulting oxirane gel was contacted with octylmercaptan in the presence of NaBH4 and NaOH. The resulting octyl-S-agarose adsorbed human serum albumin as well as conventionally used octyl-O-agarose. However, the octyl-S-agarose provided a pure serum albumin when eluting with a Tris buffer containing ethylene glycol.

L12 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2000:175542 CAPLUS  
 DOCUMENT NUMBER: 132:231252  
 TITLE: Chiral supports, stationary phases, and substrates  
 based on polysaccharides and  
 oligosaccharides crosslinked with  
 bissilane-, bisthioether-, bisulphoxyde-,  
 bisulphone- and butanediyl derivatives  
 INVENTOR(S): Duval, Raphael  
 PATENT ASSIGNEE(S): Institut Francais Du Petrole, Fr.; Chiralsep Sarl; Eka  
 Chemicals AB  
 SOURCE: Eur. Pat. Appl., 32 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 985682	A1	20000315	EP 1999-402204	19990907
EP 985682	B1	20051207		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
FR 2784108	A1	20000407	FR 1998-11376	19980911
AU 9947345	A1	20000608	AU 1999-47345	19990902
AU 769244	B2	20040122		
AT 312121	T	20051215	AT 1999-402204	19990907
ES 2252924	T3	20060516	ES 1999-402204	19990907
CA 2281973	A1	20000311	CA 1999-2281973	19990910
NO 9904411	A	20000313	NO 1999-4411	19990910
JP 2000086702	A	20000328	JP 1999-258550	19990913
US 2001029282	A1	20011011	US 2001-838284	20010420
US 6677446	B2	20040113		
US 2004068106	A1	20040408	US 2003-694844	20031029
PRIORITY APPLN. INFO.:			FR 1998-11376	A 19980911
			US 1999-394905	B3 19990913
			US 2001-838284	A3 20010420

AB Chiral polysaccharide compns. consist of chiral monosaccharide units (as part of polysaccharide or oligosaccharide chains) crosslinked by components of general structures -X-Y-A[CH<sub>2</sub>-CHR-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X- (I) or -X-Y-A[CH<sub>2</sub>-CHR-L-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X- (II), in which X = O or NH; m is a nonzero number <5; R = H or C<sub>1-8</sub>-alkyl-; Y is a single bond, -NHC(=O)-, -NHC(=S)-, or -C(=O)-; A is a single bond or C<sub>1-21</sub>-alkylene; L is a bis-thioether (of general formula -S-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-S-), a bis-sulfoxide (of general formula -SO-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-SO-), a bis-sulfone (of general formula -SO<sub>2</sub>-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-SO<sub>2</sub>-), a bis-silane [of general formula -Si(R<sub>5</sub>)<sub>2</sub>-R<sub>4</sub>-Si(R<sub>5</sub>)<sub>2</sub>-], in which W<sub>1</sub> and W<sub>3</sub> are d C<sub>1-21</sub>-alkylene, C<sub>6-18</sub>-arylene, or C<sub>7-40</sub>-aralkylene; -W<sub>2</sub> is a single bond, W<sub>1</sub>, O, S, or a sym. diester of formula -OC(=O)-W<sub>1</sub>-C(=O)O-, R<sub>5</sub> is C<sub>1-5</sub>-alkyl or H, R<sub>4</sub> is -R<sub>6</sub>-Si[(R<sub>5</sub>)<sub>2</sub>-R<sub>6</sub>-]<sub>n</sub> (in which R<sub>6</sub> is (CH<sub>2</sub>)<sub>6</sub> or O; n = 0-3000, and o = 0-10). The arylene radicals I and II can be substituted by one or more substituents, selected by halogen, C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkoxy, and NO<sub>2</sub>. The monosaccharide chiral units are located at the terminus of structures I and II, such that the overall compns. have the following structures: (MS)-X-Y-A[CH<sub>2</sub>-CHR-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X-(MS) and (MS)-X-Y-A[CH<sub>2</sub>-CHR-L-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X-(MS), in which X, Y, A, R, L, and m are the same as in I and II, and the monosaccharide chiral unit (MS) is part of a linear, branched, or cyclic polysaccharide or oligosaccharide. The compns., which can be polymerized in the presence of a solvent and stabilizers, or deposited on a support, are useful as chiral stationary phases for gas, liquid, and supercrit. chromatog., especially for separation of enantiomers.

L12 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2000:175542 CAPLUS  
 DOCUMENT NUMBER: 132:231252  
 TITLE: Chiral supports, stationary phases, and substrates  
 based on polysaccharides and  
 oligosaccharides crosslinked with  
 bissilane-, bisthioether-, bisulphoxyde-,  
 bisulphone- and butanediyl derivatives  
 INVENTOR(S): Duval, Raphael  
 PATENT ASSIGNEE(S): Institut Francais Du Petrole, Fr.; Chiralsep Sarl; Eka  
 Chemicals AB  
 SOURCE: Eur. Pat. Appl., 32 pp.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 985682	A1	20000315	EP 1999-402204	19990907
EP 985682	B1	20051207		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
FR 2784108	A1	20000407	FR 1998-11376	19980911
AU 9947345	A1	20000608	AU 1999-47345	19990902
AU 769244	B2	20040122		
AT 312121	T	20051215	AT 1999-402204	19990907
ES 2252924	T3	20060516	ES 1999-402204	19990907
CA 2281973	A1	20000311	CA 1999-2281973	19990910
NO 9904411	A	20000313	NO 1999-4411	19990910
JP 2000086702	A	20000328	JP 1999-258550	19990913
US 2001029282	A1	20011011	US 2001-838284	20010420
US 6677446	B2	20040113		
US 2004068106	A1	20040408	US 2003-694844	20031029
PRIORITY APPLN. INFO.:			FR 1998-11376	A 19980911
			US 1999-394905	B3 19990913
			US 2001-838284	A3 20010420

AB Chiral polysaccharide compns. consist of chiral monosaccharide units (as part of polysaccharide or oligosaccharide chains) crosslinked by components of general structures -X-Y-A[CH<sub>2</sub>-CHR-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X- (I) or -X-Y-A[CH<sub>2</sub>-CHR-L-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X- (II), in which X = O or NH; m is a nonzero number <5; R = H or C<sub>1-8</sub>-alkyl-; Y is a single bond, -NHC(=O)-, -NHC(=S)-, or -C(=O)-; A is a single bond or C<sub>1-21</sub>-alkylene; L is a bis-thioether (of general formula -S-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-S-), a bis-sulfoxide (of general formula -SO<sub>2</sub>-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-SO<sub>2</sub>-), a bis-silane [of general formula -Si(R<sub>5</sub>)<sub>2</sub>-R<sub>4</sub>-Si(R<sub>5</sub>)<sub>2</sub>-], in which W<sub>1</sub> and W<sub>3</sub> are d C<sub>1-21</sub>-alkylene, C<sub>6-18</sub>-arylene, or C<sub>7-40</sub>-aralkylene; -W<sub>2</sub> is a single bond, W<sub>1</sub>, O, S, or a sym. diester of formula -OC(=O)-W<sub>1</sub>-C(=O)O-, R<sub>5</sub> is C<sub>1-5</sub>-alkyl or H, R<sub>4</sub> is -R<sub>6</sub>-Si[(R<sub>5</sub>)<sub>2</sub>-R<sub>6</sub>-]<sub>n</sub> (in which R<sub>6</sub> is (CH<sub>2</sub>)<sub>o</sub>, or O; n = 0-3000, and o = 0-10). The arylene radicals I and II can be substituted by one or more substituents, selected by halogen, C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkoxy, and NO<sub>2</sub>. The monosaccharide chiral units are located at the terminus of structures I and II, such that the overall compns. have the following structures: (MS)-X-Y-A[CH<sub>2</sub>-CHR-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X-(MS) and (MS)-X-Y-A[CH<sub>2</sub>-CHR-L-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X-(MS), in which X, Y, A, R, L, and m are the same as in I and II, and the monosaccharide chiral unit (MS) is part of a linear, branched, or cyclic polysaccharide or oligosaccharide. The compns., which can be polymerized in the presence of a solvent and stabilizers, or deposited on a support, are useful as chiral stationary phases for gas, liquid, and supercrit. chromatog., especially for separation of enantiomers.

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

13 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2002:63509 CAPLUS  
 DOCUMENT NUMBER: 136:120127  
 TITLE: Adsorbent preparation, dry process for crosslinked polysaccharides, and recovery and separation of arsenic ions using the same  
 INVENTOR(S): Baba, Yoshinari; Yanagida, Eiichi  
 PATENT ASSIGNEE(S): Miyazaki University, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002020404	A	20020123	JP 2000-210011	20000711
JP 3412009	B2	20030603		

PRIORITY APPLN. INFO.: JP 2000-210011 20000711  
 AB Solid polysaccharides bearing carboxyl, amino, thiol, thiourea, pyridyl, thioether, oxime, phosphate group, and/or sulfate group, are crosslinked upon contact with crosslinking agents (suitably HCHO) to give chemical stable adsorbents. The polysaccharides may be chitosan, alginic acid, pectin, and/or cyclodextrin. Further claimed are (i) recovery of As<sup>3+</sup> (I) from solns. of pH 1-3.5 or ≥6 by use of Fe<sup>3+</sup>- and/or Cu<sup>2+</sup>-adsorbed crosslinked alginic acid as adsorbents, (ii) recovery of As<sup>5+</sup> (II) from solns. of pH 1-7 by use of Fe<sup>3+</sup>-adsorbed crosslinked alginic acid, and (iii) separation of I and II from solns. of pH 3-5 or ≥7.5 by use of Fe<sup>3+</sup>-adsorbed crosslinked alginic acid. Thus, a 1:199 mixture of 37% HCHO and 37% HCl was slowly dropped on alginic acid, aged at room temperature, acetalized, and neutralized to give a crosslinked alginic acid, which showed excellent adsorption ability of various metal ions.

L13 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2000:223684 CAPLUS  
 DOCUMENT NUMBER: 132:271629  
 TITLE: Silver halide photographic material containing contrast-improving agent, hardener, and saccharide  
 INVENTOR(S): Goto, Kenji  
 PATENT ASSIGNEE(S): Konica Co., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000098526	A	20000407	JP 1998-263061	19980917

PRIORITY APPLN. INFO.: JP 1998-263061 19980917  
 AB In the photog. material with hydrophilic colloid layer containing contrast-improving agent, the hardening of the layer is promoted with a moisturizer. The material comprising a support having thereon ≥1 hydrophilic layer containing a hydrazine derivative or a tetrazolium compound, in which gelatin is crosslinked with CH<sub>2</sub>:CHSO<sub>2</sub>R<sub>1</sub>SO<sub>2</sub>CH:CH<sub>2</sub> (R<sub>1</sub> = alkylene or substituted alkylene which may have an amide, an ether, or a thioether linkage) and contains saccharides. It shows improved storage stability in the presence of the contrast-improving agent.

L13 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2000:175542 CAPLUS  
 DOCUMENT NUMBER: 132:231252  
 TITLE: Chiral supports, stationary phases, and substrates  
 based on polysaccharides and oligosaccharides  
 crosslinked with bissilane-, bisthioether-,  
 bissulphoxyde-, bissulphone- and butanediyl  
 derivatives  
 INVENTOR(S): Duval, Raphael  
 PATENT ASSIGNEE(S): Institut Francais Du Petrole, Fr.; Chiralsep Sarl; Eka  
 Chemicals AB  
 SOURCE: Eur. Pat. Appl., 32 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 985682	A1	20000315	EP 1999-402204	19990907
EP 985682	B1	20051207		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
FR 2784108	A1	20000407	FR 1998-11376	19980911
AU 9947345	A1	20000608	AU 1999-47345	19990902
AU 769244	B2	20040122		
AT 312121	T	20051215	AT 1999-402204	19990907
ES 2252924	T3	20060516	ES 1999-402204	19990907
CA 2281973	A1	20000311	CA 1999-2281973	19990910
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US 2001029282	A1	20011011	US 2001-838284	20010420
US 6677446	B2	20040113		
US 2004068106	A1	20040408	US 2003-694844	20031029
PRIORITY APPLN. INFO.:			FR 1998-11376	A 19980911
			US 1999-394905	B3 19990913
			US 2001-838284	A3 20010420

AB Chiral polysaccharide compns. consist of chiral monosaccharide units (as part of polysaccharide or oligosaccharide chains) crosslinked by components of general structures -X-Y-A[CH<sub>2</sub>-CHR-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X- (I) or -X-Y-A[CH<sub>2</sub>-CHR-L-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X (II), in which X = O or NH; m is a nonzero number <5; R = H or C<sub>1-8</sub>-alkyl-; Y is a single bond, -NHC(:O)-, -NHC(:S)-, or -C(:O)-; A is a single bond or C<sub>1-21</sub>-alkylene; L is a bisthioether (of general formula -S-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-S-), a bis-sulfoxide (of general formula -SO<sub>2</sub>-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-SO<sub>2</sub>-), a bis-sulfone (of general formula -SO<sub>2</sub>-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-SO<sub>2</sub>-), a bis-silane [of general formula -Si(R<sub>5</sub>)<sub>2</sub>-R<sub>4</sub>-Si(R<sub>5</sub>)<sub>2</sub>-], in which W<sub>1</sub> and W<sub>3</sub> are d C<sub>1-21</sub>-alkylene, C<sub>6-18</sub>-arylene, or C<sub>7-40</sub>-aralkylene; -W<sub>2</sub> is a single bond, W<sub>1</sub>, O, S, or a sym. diester of formula -OC(:O)-W<sub>1</sub>-C(:O)O-, R<sub>5</sub> is C<sub>1-5</sub>-alkyl or H, R<sub>4</sub> is -R<sub>6</sub>-Si[(R<sub>5</sub>)<sub>2</sub>-R<sub>6</sub>-]<sub>n</sub> (in which R<sub>6</sub> is (CH<sub>2</sub>)<sub>6</sub>, or O; n = 0-3000, and o = 0-10). The arylene radicals I and II can be substituted by one or more substituents, selected by halogen, C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkoxy, and NO<sub>2</sub>. The monosaccharide chiral units are located at the terminus of structures I and II, such that the overall compns. have the following structures: (MS)-X-Y-A[CH<sub>2</sub>-CHR-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X-(MS) and (MS)-X-Y-A[CH<sub>2</sub>-CHR-L-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X-(MS), in which X, Y, A, R, L, and m are the same as in I and II, and the monosaccharide chiral unit (MS) is part of a linear, branched, or cyclic polysaccharide or oligosaccharide. The compns., which can be polymerized in the presence of a solvent and stabilizers, or deposited on a support, are useful as chiral stationary phases for gas, liquid, and supercrit.

chromatog., especially for separation of enantiomers.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1999:234182 CAPLUS  
DOCUMENT NUMBER: 131:78311  
TITLE: A new method of non-crosslinking conjugation of polysaccharides to proteins via thioether bonds for the preparation of saccharide-protein conjugate vaccines  
AUTHOR(S): Pawlowski, Andrzej; Kallenius, Gunilla; Svenson, Stefan B.  
CORPORATE SOURCE: Department of Bacteriology, Swedish Institute for Infectious Disease Control, Stockholm, S-105 21, Swed.  
SOURCE: Vaccine (1999), 17(11-12), 1474-1483  
CODEN: VACCDE; ISSN: 0264-410X  
PUBLISHER: Elsevier Science Ltd.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Bacterial polysaccharides, including capsular polysaccharides, are poor immunogens particularly in young infants. However, conjugation of bacterial polysaccharides to immunogenic carrier proteins generally results in conjugates that induce strong antipolysaccharide T-helper-cell dependent immune responses, also in young infants. The magnitude of the response and the extent of the T-helper-cell dependency is related to the chemical characteristics of the particular conjugate such as presence or absence of polysaccharide-protein crosslinking, presence or absence of spacer arms, character of spacer arms, type of carrier protein, size of conjugated polysaccharide haptens and molar degree of substitution. In the present study a new, general and simple method for the preparation of poly- and oligosaccharide-protein conjugates is presented. This new method is based on spacer-introducing chemical that allows for conjugation of a model polysaccharide, dextran, ranging in size from 0.5 to 150 kDa, to tetanus toxoid (TTd). The developed conjugation method involves derivatization of polysaccharide with 2-iminothiolane (2-IT) and activation of carrier protein, such as TTd, with N-hydroxysuccinimide ester of bromoacetic acid. Reaction rates and accordingly the substitution of the conjugates, could be controlled by varying time, pH and concentration of the reactants. Unlike direct reductive amination, the 2-IT based conjugation technol. is fast and made it possible to couple fairly large polysaccharides to TTd.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1986:145147 CAPLUS  
DOCUMENT NUMBER: 104:145147  
TITLE: Sulfone-activated thioether adsorbents for the separation of proteins and other biopolymers.  
INVENTOR(S): Porath, Jerker  
PATENT ASSIGNEE(S): Swed.  
SOURCE: Eur. Pat. Appl., 8 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 168363	A2	19860115	EP 1985-850149	19850429
EP 168363	A3	19870325		
EP 168363	B1	19890830		

R: DE, FR, GB

SE 8402663	A	19851118	SE 1984-2663	19840517
SE 470099	B	19931108		
SE 470099	C	19940303		
US 4696980	A	19870929	US 1985-729344	19850430
JP 61005100	A	19860110	JP 1985-105769	19850517
JP 04004018	B	19920127		

PRIORITY APPLN. INFO.:

AB An adsorbent is described for the separation and immobilization of biopolymers which consists of a solid phase (diameter <1 mm) completely or partially penetrated by or surface coated with a hydrophilic mol. polymeric netting having chain sequences of the structure XCH<sub>2</sub>CH<sub>2</sub>SO<sub>2</sub>CH<sub>2</sub>SY (X = ether O, thioether S, N; Y = alkyl, substituted alkyl, heteroarom.) crosslinked with polyhydroxy (e.g., polysaccharide, galactan) or polyamide (e.g., polyacrylamide) polymer. The adsorbent can be used for the fractionation of biopolymers (e.g., nucleic acids, nucleotides, proteins) and is useful for serum protein fractionation.

L13 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2002:63509 CAPLUS  
 DOCUMENT NUMBER: 136:120127  
 TITLE: Adsorbent preparation, dry process for crosslinked polysaccharides, and recovery and separation of arsenic ions using the same  
 INVENTOR(S): Baba, Yoshinari; Yanagida, Eiichi  
 PATENT ASSIGNEE(S): Miyazaki University, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002020404	A	20020123	JP 2000-210011	20000711
JP 3412009	B2	20030603		

PRIORITY APPLN. INFO.: JP 2000-210011 20000711  
 AB Solid polysaccharides bearing carboxyl, amino, thiol, thiourea, pyridyl, thioether, oxime, phosphate group, and/or sulfate group, are crosslinked upon contact with crosslinking agents (suitably HCHO) to give chemical stable adsorbents. The polysaccharides may be chitosan, alginic acid, pectin, and/or cyclodextrin. Further claimed are (i) recovery of As<sup>3+</sup> (I) from solns. of pH 1-3.5 or ≥6 by use of Fe<sup>3+</sup>- and/or Cu<sup>2+</sup>-adsorbed crosslinked alginic acid as adsorbents, (ii) recovery of As<sup>5+</sup> (II) from solns. of pH 1-7 by use of Fe<sup>3+</sup>-adsorbed crosslinked alginic acid, and (iii) separation of I and II from solns. of pH 3-5 or ≥7.5 by use of Fe<sup>3+</sup>-adsorbed crosslinked alginic acid. Thus, a 1:199 mixture of 37% HCHO and 37% HCl was slowly dropped on alginic acid, aged at room temperature, acetalized, and neutralized to give a crosslinked alginic acid, which showed excellent adsorption ability of various metal ions.

L13 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2000:223684 CAPLUS  
 DOCUMENT NUMBER: 132:271629  
 TITLE: Silver halide photographic material containing contrast-improving agent, hardener, and saccharide  
 INVENTOR(S): Goto, Kenji  
 PATENT ASSIGNEE(S): Konica Co., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000098526	A	20000407	JP 1998-263061	19980917

PRIORITY APPLN. INFO.: JP 1998-263061 19980917  
 AB In the photog. material with hydrophilic colloid layer containing contrast-improving agent, the hardening of the layer is promoted with a moisturizer. The material comprising a support having thereon ≥1 hydrophilic layer containing a hydrazine derivative or a tetrazolium compound, in which gelatin is crosslinked with CH<sub>2</sub>:CHSO<sub>2</sub>R<sub>1</sub>SO<sub>2</sub>CH:CH<sub>2</sub> (R<sub>1</sub> = alkylene or substituted alkylene which may have an amide, an ether, or a thioether linkage) and contains saccharides. It shows improved storage stability in the presence of the contrast-improving

agent.

L13 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2000:175542 CAPLUS  
DOCUMENT NUMBER: 132:231252  
TITLE: Chiral supports, stationary phases, and substrates based on polysaccharides and oligosaccharides crosslinked with bissilane-, bisthioether-, bissulphoxyde-, bissulphone- and butanediyl derivatives  
INVENTOR(S): Duval, Raphael  
PATENT ASSIGNEE(S): Institut Francais Du Petrole, Fr.; Chiralsep Sarl; Eka Chemicals AB  
SOURCE: Eur. Pat. Appl., 32 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: French  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 985682	A1	20000315	EP 1999-402204	19990907
EP 985682	B1	20051207		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
FR 2784108	A1	20000407	FR 1998-11376	19980911
AU 9947345	A1	20000608	AU 1999-47345	19990902
AU 769244	B2	20040122		
AT 312121	T	20051215	AT 1999-402204	19990907
ES 2252924	T3	20060516	ES 1999-402204	19990907
CA 2281973	A1	20000311	CA 1999-2281973	19990910
NO 9904411	A	20000313	NO 1999-4411	19990910
JP 2000086702	A	20000328	JP 1999-258550	19990913
US 2001029282	A1	20011011	US 2001-838284	20010420
US 6677446	B2	20040113		
US 2004068106	A1	20040408	US 2003-694844	20031029
PRIORITY APPLN. INFO.:			FR 1998-11376	A 19980911
			US 1999-394905	B3 19990913
			US 2001-838284	A3 20010420

AB Chiral polysaccharide compns. consist of chiral monosaccharide units (as part of polysaccharide or oligosaccharide chains) crosslinked by components of general structures -X-Y-A[CH<sub>2</sub>-CHR-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X- (I) or -X-Y-A[CH<sub>2</sub>-CHR-L-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X- (II), in which X = O or NH; m is a nonzero number <5; R = H or C<sub>1-8</sub>-alkyl-; Y is a single bond, -NHC(=O)-, -NHC(=S)-, or -C(=O)-; A is a single bond or C<sub>1-21</sub>-alkylene; L is a bisthioether (of general formula -S-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-S-), a bis-sulfoxide (of general formula -SO<sub>2</sub>-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-SO<sub>2</sub>-), a bis-sulfone (of general formula -SO<sub>2</sub>-W<sub>1</sub>-W<sub>2</sub>-W<sub>3</sub>-SO<sub>2</sub>-), a bis-silane [of general formula -Si(R<sub>5</sub>)<sub>2</sub>-R<sub>4</sub>-Si(R<sub>5</sub>)<sub>2</sub>-], in which W<sub>1</sub> and W<sub>3</sub> are d C<sub>1-21</sub>-alkylene, C<sub>6-18</sub>-arylene, or C<sub>7-40</sub>-aralkylene; -W<sub>2</sub> is a single bond, W<sub>1</sub>, O, S, or a sym. diester of formula -OC(=O)-W<sub>1</sub>-C(=O)O-, R<sub>5</sub> is C<sub>1-5</sub>-alkyl or H, R<sub>4</sub> is -R<sub>6</sub>-Si[(R<sub>5</sub>)<sub>2</sub>-R<sub>6</sub>-]<sub>n</sub> (in which R<sub>6</sub> is (CH<sub>2</sub>)<sub>6</sub>, or O; n = 0-3000, and o = 0-10). The arylene radicals I and II can be substituted by one or more substituents, selected by halogen, C<sub>1-4</sub>-alkyl, C<sub>1-4</sub>-alkoxy, and NO<sub>2</sub>. The monosaccharide chiral units are located at the terminus of structures I and II, such that the overall compns. have the following structures: (MS)-X-Y-A[CH<sub>2</sub>-CHR-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X-(MS) and (MS)-X-Y-A[CH<sub>2</sub>-CHR-L-CHR-CH<sub>2</sub>]<sub>m</sub>-A-Y-X-(MS), in which X, Y, A, R, L, and m are the same as in I and II, and the monosaccharide chiral unit (MS) is part of a linear, branched, or cyclic polysaccharide or oligosaccharide. The compns., which can be polymerized in the presence of a solvent and stabilizers, or deposited on a support, are

useful as chiral stationary phases for gas, liquid, and supercrit. chromatog., especially for separation of enantiomers.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1999:234182 CAPLUS  
DOCUMENT NUMBER: 131:78311  
TITLE: A new method of non-crosslinking conjugation of polysaccharides to proteins via thioether bonds for the preparation of saccharide-protein conjugate vaccines  
AUTHOR(S): Pawlowski, Andrzej; Kallenius, Gunilla; Svenson, Stefan B.  
CORPORATE SOURCE: Department of Bacteriology, Swedish Institute for Infectious Disease Control, Stockholm, S-105 21, Swed.  
SOURCE: Vaccine (1999), 17(11-12), 1474-1483  
CODEN: VACCDE; ISSN: 0264-410X  
PUBLISHER: Elsevier Science Ltd.  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Bacterial polysaccharides, including capsular polysaccharides, are poor immunogens particularly in young infants. However, conjugation of bacterial polysaccharides to immunogenic carrier proteins generally results in conjugates that induce strong antipolysaccharide T-helper-cell dependent immune responses, also in young infants. The magnitude of the response and the extent of the T-helper-cell dependency is related to the chemical characteristics of the particular conjugate such as presence or absence of polysaccharide-protein crosslinking, presence or absence of spacer arms, character of spacer arms, type of carrier protein, size of conjugated polysaccharide haptens and molar degree of substitution. In the present study a new, general and simple method for the preparation of poly- and oligosaccharide-protein conjugates is presented. This new method is based on spacer-introducing chemical that allows for conjugation of a model polysaccharide, dextran, ranging in size from 0.5 to 150 kDa, to tetanus toxoid (TTd). The developed conjugation method involves derivatization of polysaccharide with 2-iminothiolane (2-IT) and activation of carrier protein, such as TTd, with N-hydroxysuccinimide ester of bromoacetic acid. Reaction rates and accordingly the substitution of the conjugates, could be controlled by varying time, pH and concentration of the reactants. Unlike direct reductive amination, the 2-IT based conjugation technol. is fast and made it possible to couple fairly large polysaccharides to TTd.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1986:145147 CAPLUS  
DOCUMENT NUMBER: 104:145147  
TITLE: Sulfone-activated thioether adsorbents for the separation of proteins and other biopolymers.  
INVENTOR(S): Porath, Jerker  
PATENT ASSIGNEE(S): Swed.  
SOURCE: Eur. Pat. Appl., 8 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 168363	A2	19860115	EP 1985-850149	19850429
EP 168363	A3	19870325		
EP 168363	B1	19890830		

R: DE, FR, GB

SE 8402663	A	19851118	SE 1984-2663	19840517
SE 470099	B	19931108		
SE 470099	C	19940303		
US 4696980	A	19870929	US 1985-729344	19850430
JP 61005100	A	19860110	JP 1985-105769	19850517
JP 04004018	B	19920127		

PRIORITY APPLN. INFO.: SE 1984-2663 A 19840517

AB An adsorbent is described for the separation and immobilization of biopolymers which consists of a solid phase (diameter <1 mm) completely or partially penetrated by or surface coated with a hydrophilic mol. polymeric netting having chain sequences of the structure XCH<sub>2</sub>CH<sub>2</sub>SO<sub>2</sub>CH<sub>2</sub>SY (X = ether O, thioether S, N; Y = alkyl, substituted alkyl, heteroarom.) crosslinked with polyhydroxy (e.g., polysaccharide, galactan) or polyamide (e.g., polyacrylamide) polymer. The adsorbent can be used for the fractionation of biopolymers (e.g., nucleic acids, nucleotides, proteins) and is useful for serum protein fractionation.

L15 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2006:254731 CAPLUS  
 DOCUMENT NUMBER: 145:89833  
 TITLE: Microcapsule injections containing oil soluble drug encapsulated in biodegradable polymers and surfactant emulsions  
 INVENTOR(S): Gao, Changyou; Jiang, Bingbing; Shen, Jiacong  
 PATENT ASSIGNEE(S): Zhejiang University, Peop. Rep. China  
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 15 pp.  
 CODEN: CNXXEV  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Chinese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1742707	A	20060308	CN 2005-10060926	20050928
PRIORITY APPLN. INFO.:			CN 2005-10060926	20050928

AB The title injections consist of an oil-soluble drug (ibuprofen or ciprofloxacin), medical poly(lactic acid), poly(lactic acid) containing double bonds and/or polysaccharides containing double bonds. The injections are manufactured by: (1) grinding lactide and stannous chloride into powder, and adding allyloxy ethylene glycol, (2) heating at 140-2000 for 4 h, cooling and precipitating with acetone and water to obtain poly(lactic acid) containing double bonds, (3) adding polysaccharide solution into methylacrylic acid (or acrylic acid) and carbodiimide in water to obtain polysaccharide containing double bonds, (4) dissolving oil soluble drug, poly(lactic acid), poly(lactic acid) containing double bond and crosslinking agent into organic solvent, and adding into polysaccharide containing double bond and polyvinyl alc. or triton X-100 to obtain oil/water emulsion, and (5) adding water soluble redox initiator (selected from potassium persulfate, ammonium persulfate, sodium bisulfite and sodium sulfite) and stirring to obtain the final product.

L15 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1999:375255 CAPLUS  
 DOCUMENT NUMBER: 131:23575  
 TITLE: Superabsorbent material made from oxidized polysaccharides  
 INVENTOR(S): Besemer, Arie Cornelis; Thornton, Jeffrey Wilson  
 PATENT ASSIGNEE(S): SCA Molnlycke AB, Neth.  
 SOURCE: Eur. Pat. Appl., 7 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 920874	A1	19990609	EP 1997-203823	19971205
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
WO 9929352	A1	19990617	WO 1998-NL693	19981207
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,				

FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,  
CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9915122 A 19990628 AU 1999-15122 19981207  
PRIORITY APPLN. INFO.: EP 1997-203823 A 19971205  
WO 1998-NL693 W 19981207

AB The invention provides a process of producing a superabsorbent polysaccharide derivative by oxidation of a  $\alpha$ -glucan, glucomannan or galactomannan to introduce aldehyde functions; the oxidized polysaccharide subsequently being reacted with sulfur dioxide or an equivalent thereof to produce a hydroxysulfonated polysaccharide. The polysaccharide may be crosslinked before or after the oxidation. The preferred polysaccharide is starch or guar. Thus, 10 g starch was suspended in 14% sodium sulfate solution and was crosslinked with 0.1% epichlorohydrin. After 20 h the product was isolated and washed, then treated with 96% ethanol and acetone and dried in vacuum oven. The dried material was suspended in 250 mL water and 6.6 g sodium periodate was added and the mixture was stirred for 20 h to obtain an oxidized product with a 50% degree of oxidation. The product was collected by filtration washed, dried, and freeze-dried. To a suspension of 1 g of the dry material in 20 mL of water, 1.6 mL of 39% sodium bisulfite solution was added to obtain a gel which was precipitated in 96% ethanol and then collected and dried. The product had a free swelling capacity of 1.0 g/g.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1991:125466 CAPLUS

DOCUMENT NUMBER: 114:125466

TITLE: Stabilizing high temperature fracturing fluids using oxygen scavenger and 2-mercaptobenzothiazole

AUTHOR(S): Lawson, J. B.

CORPORATE SOURCE: Shell Oil Co., USA

SOURCE: Research Disclosure (1990), 317, 730-1 (No. 31742)  
CODEN: RSDSBB; ISSN: 0374-4353

DOCUMENT TYPE: Journal; Patent

LANGUAGE: English

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RD 317042	-----	19900910	-----	-----

PRIORITY APPLN. INFO.: RD 1990-317042 19900910  
AB At high temperature, NaHSO<sub>3</sub> (O scavenger)-2-mercaptobenzothiazole (radical scavenger) gives as much as stability or more to Thermagel (well-fracturing gel; crosslinked polysaccharide) as does Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> under continuous-shear conditions, and more in static sand settling expts.

L17 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2006:254731 CAPLUS  
 DOCUMENT NUMBER: 145:89833  
 TITLE: Microcapsule injections containing oil soluble drug encapsulated in biodegradable polymers and surfactant emulsions  
 INVENTOR(S): Gao, Changyou; Jiang, Bingbing; Shen, Jiacong  
 PATENT ASSIGNEE(S): Zhejiang University, Peop. Rep. China  
 SOURCE: Faming Zhuanli Shengqing Gongkai Shuomingshu, 15 pp.  
 CODEN: CNXXEV  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Chinese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1742707	A	20060308	CN 2005-10060926	20050928
PRIORITY APPLN. INFO.:			CN 2005-10060926	20050928

AB The title injections consist of an oil-soluble drug (ibuprofen or ciprofloxacin), medical poly(lactic acid), poly(lactic acid) containing double bonds and/or polysaccharides containing double bonds. The injections are manufactured by: (1) grinding lactide and stannous chloride into powder, and adding allyloxy ethylene glycol, (2) heating at 140-2000 for 4 h, cooling and precipitating with acetone and water to obtain poly(lactic acid) containing double bonds, (3) adding polysaccharide solution into methylacrylic acid (or acrylic acid) and carbodiimide in water to obtain polysaccharide containing double bonds, (4) dissolving oil soluble drug, poly(lactic acid), poly(lactic acid) containing double bond and crosslinking agent into organic solvent, and adding into polysaccharide containing double bond and polyvinyl alc. or triton X-100 to obtain oil/water emulsion, and (5) adding water soluble redox initiator (selected from potassium persulfate, ammonium persulfate, sodium bisulfite and sodium sulfite) and stirring to obtain the final product.

L17 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 1999:375255 CAPLUS  
 DOCUMENT NUMBER: 131:23575  
 TITLE: Superabsorbent material made from oxidized polysaccharides  
 INVENTOR(S): Besemer, Arie Cornelis; Thornton, Jeffrey Wilson  
 PATENT ASSIGNEE(S): SCA Molnlycke AB, Neth.  
 SOURCE: Eur. Pat. Appl., 7 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 920874	A1	19990609	EP 1997-203823	19971205
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
WO 9929352	A1	19990617	WO 1998-NL693	19981207
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,				

FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,  
CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9915122 A 19990628 AU 1999-15122 19981207  
PRIORITY APPLN. INFO.: EP 1997-203823 A 19971205  
WO 1998-NL693 W 19981207

AB The invention provides a process of producing a superabsorbent polysaccharide derivative by oxidation of a  $\alpha$ -glucan, glucomannan or galactomannan to introduce aldehyde functions; the oxidized polysaccharide subsequently being reacted with sulfur dioxide or an equivalent thereof to produce a hydroxysulfonated polysaccharide. The polysaccharide may be crosslinked before or after the oxidation. The preferred polysaccharide is starch or guar. Thus, 10 g starch was suspended in 14% sodium sulfate solution and was crosslinked with 0.1% epichlorohydrin. After 20 h the product was isolated and washed, then treated with 96% ethanol and acetone and dried in vacuum oven. The dried material was suspended in 250 mL water and 6.6 g sodium periodate was added and the mixture was stirred for 20 h to obtain an oxidized product with a 50% degree of oxidation. The product was collected by filtration washed, dried, and freeze-dried. To a suspension of 1 g of the dry material in 20 mL of water, 1.6 mL of 39% sodium bisulfite solution was added to obtain a gel which was precipitated in 96% ethanol and then collected and dried. The product had a free swelling capacity of 1.0 g/g.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1991:125466 CAPLUS

DOCUMENT NUMBER: 114:125466

TITLE: Stabilizing high temperature fracturing fluids using oxygen scavenger and 2-mercaptobenzothiazole

AUTHOR(S): Lawson, J. B.

CORPORATE SOURCE: Shell Oil Co., USA

SOURCE: Research Disclosure (1990), 317, 730-1 (No. 31742)

CODEN: RSDSBB; ISSN: 0374-4353

DOCUMENT TYPE: Journal; Patent

LANGUAGE: English

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RD 317042	-----	19900910	-----	-----

PRIORITY APPLN. INFO.: RD 1990-317042 19900910

AB At high temperature, NaHSO<sub>3</sub> (O scavenger)-2-mercaptobenzothiazole (radical scavenger) gives as much as stability or more to Thermagel (well-fracturing gel; crosslinked polysaccharide) as does Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> under continuous-shear conditions, and more in static sand settling expts.

L21 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1995:254698 CAPLUS  
DOCUMENT NUMBER: 122:32152  
TITLE: Synthesis of new unsaturated styrene polyesters from isomolecular diols with thio ether bridges. NMR study and thermal behavior  
AUTHOR(S): Milano, J. C.; Louakfaoui, A.; Fache, B.; Vernet, J. L.  
CORPORATE SOURCE: Lab. Chimie Applique, Univ. Toulon Var, La Garde, 83957, Fr.  
SOURCE: European Polymer Journal (1994), 30(12), 1389-95  
CODEN: EUPJAG; ISSN: 0014-3057  
PUBLISHER: Elsevier  
DOCUMENT TYPE: Journal  
LANGUAGE: French  
AB The synthesis of unsatd. polyesters crosslinkable by styrene was carried out using high isomol. weight diols containing thioether bonds. The 1H-NMR peaks were attributed. Those polyesters exhibited softness to a certain extent in conjunction with relatively high degradation temps. ( $\geq 400^\circ$ ).

L21 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1968:56622 CAPLUS  
DOCUMENT NUMBER: 68:56622  
TITLE: Formation of lanthionine and lysinoalanine cross linkages in the alkaline denaturation of bovine serum albumin  
AUTHOR(S): Zahn, Helmut; Lumper, Ludwig  
CORPORATE SOURCE: Hochsch., Rheinisch Westfaelischen Tech., Aachen, Fed. Rep. Ger.  
SOURCE: Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie (1968), 349(1), 77-84  
CODEN: HSZPAZ; ISSN: 0018-4888  
DOCUMENT TYPE: Journal  
LANGUAGE: German  
AB A study was made of the denaturation of bovine serum albumin, using the usual chemical methods of protein anal. It was learned that in buffers containing urea, at pH values between 9.0 and 12.5, lanthionine or lysinoalanine crosslinkages were formed. The denaturation product was separated into 3 fractions by gel filtration on Sephadex G-200; each fraction had a different average mol. weight, but the same lanthionine content. Therefore, the newly formed cross linkages could not all have been formed between different polypeptide chains. The formation of the thioether bridges of lanthionine and the methyleneaminobutylene bridges of lysinoalanine caused an irreversible change in formation; the protein could not be renatured.

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L23 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2005:1218294 CAPLUS  
DOCUMENT NUMBER: 143:469645  
TITLE: Coating composition with less viscosity change for  
ink-jet printing sheet, image recording material, and  
its manufacture  
INVENTOR(S): Nakano, Ryoichi; Nagata, Kozo  
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

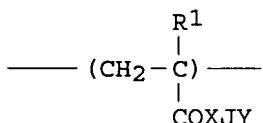
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005319612	A	20051117	JP 2004-137533	20040506
PRIORITY APPLN. INFO.:			JP 2004-137533	20040506

AB The composition contains an inorg. fine particle, a water-soluble resin, a crosslinking agent, and  $\geq 2$  of a low b.p. organic solvent, a cationic polymer with a thioether linkage, and a compound with an acidic group containing N, O, or S, and characterized by that viscosity at 15° is 20 times or less that at 40°. The material is manufactured by coating a support with a solution containing the composition for forming a layer. The composition shows less temperature dependency on viscosity, providing an ink receiving layer with improved surface property without cracking.

L23 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2005:1044925 CAPLUS  
DOCUMENT NUMBER: 143:336328  
TITLE: Ink-jet printing paper, and their production providing  
discoloration-resistant images  
INVENTOR(S): Kaneko, Manabu  
PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005262706	A	20050929	JP 2004-79909	20040319
PRIORITY APPLN. INFO.:			JP 2004-79909	20040319

GI



AB The paper comprise, on supports, ink-absorbing porous layers, and  
surficial layers which contain containing acetoacetyl-modified poly

(vinyl alc.) crosslinked with crosslinking agents (at the acetoacetyl position), and organic water-insol. fine particles A or organic fine particles B. The particles A have SP values of 18.414-30.69 (MPa) 1/2, glass transition point (Tg) of  $\geq 70^\circ$ , and average diameter of  $\leq 100$  nm, and are soluble or capable of swollen in water-soluble organic solvents with b.p. of  $\geq 120^\circ$ . The particles B are polymers with Tg of  $\geq 70^\circ$  and average diameter of  $\leq 100$  nm, and contain repeating units of Q [X = O, N(R2); R1 = H, Me; R2 = H, C1-8 alkyl; when X is O, J is C2-8 alkylene (having ether or thioether linkage), and Y is selected from OH, alkoxy, and carbamoyl; when X is N(R2), J is direct bond or C2-8 alkylene (having ether or thioether linkage), and Y is selected from H, OH, amino, alkoxy, and carbamoyl]. The crosslinking agents may be amines or hydrazines. In production of the paper, the surficial layers are formed by wet coating process, wherein the crosslinking agents are included in the coating solns. Alternatively, solns. containing the crosslinking agents are applied with/after applying coating solns. containing the modified poly(vinyl alc.) and organic particles on the ink-absorbing layers. The surficial layers are crack resistant and impart discoloration resistance to the formed images.

L23 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:375516 CAPLUS

DOCUMENT NUMBER: 139:175782

TITLE: Cytochrome P460 of *Nitrosomonas europaea*. Formation of the heme-lysine cross-link in a heterologous host and mutagenic conversion to a non-cross-linked cytochrome c'

AUTHOR(S): Bergmann, David J.; Hooper, Alan B.

CORPORATE SOURCE: Department of Biology, Black Hills State University, Spearfish, SD, USA

SOURCE: European Journal of Biochemistry (2003), 270(9), 1935-1941

PUBLISHER: CODEN: EJBCAI; ISSN: 0014-2956  
Blackwell Publishing Ltd.

DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The heme of cytochrome P460 of *Nitrosomonas europaea*, which is covalently crosslinked to two cysteines of the polypeptide as with all c-type cytochromes, has an addnl. novel covalent crosslink to lysine 70 of the polypeptide [Arciero, D.M. & Hooper, A.B. (1997) FEBS Lett. 410, 457-460]. The protein can catalyze the oxidation of hydroxylamine. The gene for this protein, *cyp*, was expressed in *Pseudomonas aeruginosa* strain PAO lacI, resulting in formation of a holo-cytochrome P460 which closely resembled native cytochrome P460 purified from *N. europaea* in its UV-visible spectroscopic, ligand binding and catalytic properties. Mutant versions of cytochrome P460 of *N. europaea* in which Lys70 70 was replaced by Arg, Ala, or Tyr, retained ligand-binding ability but lost catalytic ability and differed in optical spectra which, instead, closely resembled those of cytochromes c'. Tryptic fragments containing the c-heme joined only by two thioether linkages were observed by MALDI-TOF for the mutant cytochromes P460 K70R and K70A but not in wild-type cytochrome P460, consistent with the structural modification of the c-heme only in the wild-type cytochrome. The present observations support the hypothesized evolutionary relationship between cytochromes P460 and cytochromes c' in *N. europaea* and *M. capsulatus* [Bergmann, D.J., Zahn, J.A., & DiSpirito, A.A. (2000) Arch. Microbiol. 173, 29-34], confirm the importance of a heme-crosslink to the spectroscopic properties and catalysis and suggest that the crosslink might form auto-catalytically.

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:626583 CAPLUS  
DOCUMENT NUMBER: 137:263660  
TITLE: Rheological evidence and thermal property of controllable crosslinking poly(aryl ether ketone)s  
AUTHOR(S): Liu, Xincai; Chen, Chunhai; Teng, Ben; Zhou, Hongwei; Cao, Hui; Gao, Zihong; Yu, Youhai; Wei, Zhanhai; Xie, Huai jie; Wu, Zhongwen; Zhang, Wanjin; Wei, Yen  
CORPORATE SOURCE: Department of Chemistry, Jilin University, Changchun, 130023, Peop. Rep. China  
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2002), 43(2), 1288-1289  
CODEN: ACPPAY; ISSN: 0032-3934  
PUBLISHER: American Chemical Society, Division of Polymer Chemistry  
DOCUMENT TYPE: Journal; (computer optical disk)  
LANGUAGE: English  
AB An aryl polyether-polyketone with thioether linkages was prepared as a crosslinkable thermoplastic material. Controlled crosslinking occurred at temps  $\geq 380^\circ$ .  
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1999:138576 CAPLUS  
DOCUMENT NUMBER: 130:252905  
TITLE: The response of pristine and doped poly(p-phenylene sulfide) towards MeV gamma photons  
AUTHOR(S): Das, Arimdam; Patnaik, Archita  
CORPORATE SOURCE: Department of Chemistry, Indian Institute of Technology, Madras, 600 036, India  
SOURCE: Radiation Physics and Chemistry (1999), 54(2), 109-112  
CODEN: RPCHDM; ISSN: 0969-806X  
PUBLISHER: Elsevier Science Ltd.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB The effect of  $\gamma$ -photons on the potential engineering thermoplastic poly(p-phenylene sulfide) (PPS) has been investigated. The structural modifications are studied by elemental anal., Rutherford back Scattering, Fourier transform IR spectroscopy and differential scanning calorimetry. The polymer is resistant to irradiation up to a maximum dose of 540 kGy. Introduction of KBr that undergoes photo-decomposition resulted in disruption of the aromaticity of the polymer moiety with possible introduction of extensive crosslinking. Evidence for this structural modification was obtained from a decrease in the m.p. from the differential scanning calorimetry profile and from FTIR spectral features with complete disappearance of the characteristic aromatic skeletal vibration bands at 1467 and 1379  $\text{cm}^{-1}$  and with reduced band intensity for the in-plane and out-of-plane C-H bending modes and aromatic thioether linkage at 1008 and 1088  $\text{cm}^{-1}$  resp.  
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 1994:436468 CAPLUS  
DOCUMENT NUMBER: 121:36468  
TITLE: Silyl group-terminated polyesterpolythioethers and their manufacture  
INVENTOR(S): Inoe, Yoshio  
PATENT ASSIGNEE(S): Shinetsu Chemical Industry Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06009720	A	19940118	JP 1991-137232	19910513
PRIORITY APPLN. INFO.:			JP 1991-137232	19910513

AB Title polymers X3-aR3aSiR4SR1CO2(CH2)<sub>m</sub>[OCOR2kCO2(CH2)<sub>m</sub>]1OCOR1SR4 SiR3aX3-a (R1 = C1-6 divalent hydrocarbyl; R2 = C1-12 divalent hydrocarbyl, thioether linkage-containing C≤4 divalent organic group; R3 = C1-6 hydrocarbyl; R4 = C2-8 divalent hydrocarbyl, C4-8 ester linkage-containing divalent hydrocarbyl; X = hydrolyzable group; a = 0-2; m = 50-400; l = 1-20; k = 0-1), capable of undergoing hydrolytic polycondensation to form crosslinked polymers useful for adhesives, coatings, and sealants (no data), are manufactured by reacting HO(CH2)<sub>m</sub>OH, HSR1CO2H, and HOCOR2CO2H to give HSR1CO2(CH2)<sub>m</sub>[OCOR2kCO2(CH2)<sub>m</sub>]1OCOR1SH (I) and treating I with R3R5SiX3-a (R5 = aliphatic unsatd. group-terminated C2-8 hydrocarbyl, aliphatic unsatd. linkage-terminated C4-8 ester linkage-containing hydrocarbyl).

The reaction of Polytail HA (hydroxy-terminated polyolefin), thiadipropionic acid, and  $\beta$ -mercaptopropionic acid gave a polymer assumed to be HSC2H4CO2(CH2)160OC2H4SC2H4CO2(CH2)160OCOC2H4SH, which was treated with H2C:CH SiMe(OMe)2 under UV irradiation in the presence of benzophenone for introduction of (MeO)2SiMeC2H4 group at the ends to give title polymer.

L23 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1989:95932 CAPLUS  
DOCUMENT NUMBER: 110:95932  
TITLE: Preparation of polymer-supported amino acid  
AUTHOR(S): Itsuno, Shinichi; Wakasugi, Takashi; Ito, Koichi  
CORPORATE SOURCE: Sch. Mater. Sci., Toyohashi Univ. Technol., Toyohashi, 440, Japan  
SOURCE: Polymer Bulletin (Berlin, Germany) (1988), 20(5), 435-41  
CODEN: POBUDR; ISSN: 0170-0839

DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Insol. polymer-supported amino acids were synthesized by simple one-pot synthesis. Amino acids were solubilized in organic solvent by trimethylsilylation. Solubilized amino acids having functional groups such as OH or SH were easily attached to crosslinked polystyrene beads through benzyl ether or thioether linkage. Other amino acids without extra functional groups could be attached to the polymer through benzyl amine linkage.

L23 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1980:569157 CAPLUS  
DOCUMENT NUMBER: 93:169157  
TITLE: Aromatic polysulfone films  
PATENT ASSIGNEE(S): Imperial Chemical Industries Ltd., UK  
SOURCE: Jpn. Tokkyo Koho, 8 pp.  
CODEN: JAXXAD  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 55015493	B	19800424	JP 1971-103772	19711222
GB 1357113	A	19740619	GB 1970-60906	19701222
CA 971908	A1	19750729	CA 1971-129450	19711206

AU 7136703	A	19730614	AU 1971-36703	19711209
NL 7117565	A	19720626	NL 1971-17565	19711221
FR 2118962	A5	19720804	FR 1971-45843	19711221
IT 944262	B	19730420	IT 1971-32789	19711222
US 3959101	A	19760525	US 1973-381382	19730723
US 3975249	A	19760817	US 1974-461407	19740416
PRIORITY APPLN. INFO.:			GB 1970-60906	A 19701222
			US 1971-207948	A2 19711214
			GB 1973-18187	A 19730416
			US 1973-381382	A2 19730723

AB Aromatic polysulfones having ether or thioether linkages are irradiated with electron beams at  $\leq 400^\circ$  to crosslink and chain extend the polymer. Thus, a 56- $\mu$  poly(oxy-1,4-phenylenesulfonyl-1,4-phenylene) [25667-42-9] film (reduced viscosity of 1 g/dL solution in DMF at 25° 0.5) was irradiated with electron beams at 3.5 Mrad/min and 350° for 5 min to give a film having heat resistance >24 h at 270°, yield strength 83.5 MN/m<sup>2</sup>, tensile strength 69.5 MN/m<sup>2</sup>, elongation 65%, and cut-through temperature 290°, compared with 10 min, 86.4, 68.7, 160, and 250, resp., for a similar film without electron beam irradiation

L23 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1969:38691 CAPLUS

DOCUMENT NUMBER: 70:38691

TITLE: Cured elastomeric compositions having a reticulate structure

INVENTOR(S): Erickson, John G.

PATENT ASSIGNEE(S): Minnesota Mining and Manufacturing Co.

SOURCE: U.S., 9 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3415764	A	19681210	US 1965-509456	19650922
			US 1965-509456	A 19650922

PRIORITY APPLN. INFO.:

AB Elastomeric thiopolymers are prepared which have low but definite concns. of crosslinking sites in reticulate structures together with multiplicities of ester and thioether linkages. Some of the thiopolymers contain sulfhydryl end groups and are prepared by copolymerg. tetraethylene glycol dimethacrylate (I), 1,4-butanedithiol diacrylate, or thioglycol diacrylate with H<sub>2</sub>S in the presence of iso-Pr<sub>2</sub>NH. Other thiopolymers containing vinyl endgroups are prepared from the same monomers listed above but by the use of slightly less H<sub>2</sub>S. Carboxyl-terminated thiopolymers with acrylic acid or thioglycolic acid. A hydroxyl terminated thiopolyester is also prepared by treating a copolymer of 1,4-butylene dicrotonate and ethanedithiol with mercaptoethanol and is cured with a polyisocyanate. The sulfhydryl-terminated thiopolymers are cured with trimethylolpropane triacrylate (II), trimethylolethane triacrylate, an epoxy resin, or a polyisocyanate, either as is or after being converted to a branched thiopolyester by treatment with triacryloylhexahydro-s-triazine. The vinyl-terminated thiopolymers are cured with pentaerythritol tetrakis(thioglycolate) or a mixture of styrene and azo-bisisobutyronitrile. The carboxyl-terminated thiopolymers are cured with an epoxy resin or with N,N:N',N':N'',N'''-tris(1,2-butylene)trimesamide. The cured elastomers are useful as gaskets, sealants, packaging material, sound insulation, bath sponges, and rocket propellants when treated with C black, NH<sub>4</sub>ClO<sub>4</sub> oxidant, or other suitable fillers. Thus, a solution of I 330, iso-Pr<sub>2</sub>NH 20, and pyridine 400 parts was saturated periodically with H<sub>2</sub>S. After 2 days, 27 parts H<sub>2</sub>S had reacted. The reaction mixture, after 3 addnl. days, was saturated with H<sub>2</sub>S for

2 hrs., kept 5 hrs., filtered, and poured into heptane to precipitate a yellow, tacky thiopolyester. The sulfhydryl-terminated polymer was dissolved in CH<sub>2</sub>Cl<sub>2</sub>, repptd., washed in heptane, and dried. This polymer (containing 1.6% sulfhydryl groups and having mol. weight 5800) 4.15, II 0.143, and C black (Philblack O) 1.72 parts were milled together, and 0.1 part iso-Pr<sub>2</sub>NH was milled in. The mixture was molded and cured 8 days at 25° without pressure. The product was a tough, tackfree rubber having Shore Durometer A2 hardness 65, elongation 260%, tensile strength 1860 psi., and no set.

L23 ANSWER 10 OF 10 MEDLINE on STN  
ACCESSION NUMBER: 2003190181 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 12709052  
TITLE: Cytochrome P460 of *Nitrosomonas europaea*. Formation of the heme-lysine cross-link in a heterologous host and mutagenic conversion to a non-cross-linked cytochrome c'.  
AUTHOR: Bergmann David J; Hooper Alan B  
CORPORATE SOURCE: Department of Biology, Black Hills State University, Spearfish, SD, USA.  
SOURCE: European journal of biochemistry / FEBS, (2003 May) Vol. 270, No. 9, pp. 1935-41.  
JOURNAL CODE: 0107600. ISSN: 0014-2956.  
PUB. COUNTRY: Germany: Germany, Federal Republic of  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
(RESEARCH SUPPORT, U.S. GOV'T, NON-P.H.S.)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200307  
ENTRY DATE: Entered STN: 24 Apr 2003  
Last Updated on STN: 10 Jul 2003  
Entered Medline: 9 Jul 2003  
AB The heme of cytochrome P460 of *Nitrosomonas europaea*, which is covalently crosslinked to two cysteines of the polypeptide as with all c-type cytochromes, has an additional novel covalent crosslink to lysine 70 of the polypeptide [Arciero, D.M. & Hooper, A.B. (1997) FEBS Lett. 410, 457-460]. The protein can catalyze the oxidation of hydroxylamine. The gene for this protein, cyp, was expressed in *Pseudomonas aeruginosa* strain PAO lacI, resulting in formation of a holo-cytochrome P460 which closely resembled native cytochrome P460 purified from *N. europaea* in its UV-visible spectroscopic, ligand binding and catalytic properties. Mutant versions of cytochrome P460 of *N. europaea* in which Lys70 70 was replaced by Arg, Ala, or Tyr, retained ligand-binding ability but lost catalytic ability and differed in optical spectra which, instead, closely resembled those of cytochromes c'. Tryptic fragments containing the c-heme joined only by two thioether linkages were observed by MALDI-TOF for the mutant cytochromes P460 K70R and K70A but not in wild-type cytochrome P460, consistent with the structural modification of the c-heme only in the wild-type cytochrome. The present observations support the hypothesized evolutionary relationship between cytochromes P460 and cytochromes c' in *N. europaea* and *M. capsulatus* [Bergmann, D.J., Zahn, J.A., & DiSpirito, A.A. (2000) Arch. Microbiol. 173, 29-34], confirm the importance of a heme-crosslink to the spectroscopic properties and catalysis and suggest that the crosslink might form auto-catalytically.